

Planetary Nebula Dust Haloes Revealed by Herschel

Toshiya Ueta (Univ. of Denver/ISAS-JAXA), Djazia Ladjal (Univ. of Denver), and the HerPlaNS team

The Herschel Planetary Nebula Survey (HerPlaNS) is one of the largest Open Time programs carried out by the Herschel Space Observatory, by which we simultaneously probe the dust and gas components of the circumstellar environments of evolved stars. HerPlaNS is part of a community-wide panchromatic (from X-ray to Radio) effort to furnish substantial PN data resources that would allow us - a community of PN astronomers - to tackle a multitude of issues in PN physics.

In this contribution, we will summarize what Herschel helped us to reveal in planetary nebula haloes (PN haloes) at unprecedentedly high spatial resolutions and wide wavelength coverage in the far-infrared. The very extended structures of the PN haloes are seen in most of the 11 targets, allowing us to uncover their origin and chemistry. The implications of these new results in terms of their contribution to the enrichment of the interstellar medium will also be discussed.